Getting Started

HP Mini

Product notice

This guide describes features that are common to most models. Some features may not be available on your computer.

Software terms

By installing, copying, downloading, or otherwise using any software product preinstalled on this computer, you agree to be bound by the terms of the HP End User License Agreement (EULA). If you do not accept these license terms, your sole remedy is to return the entire unused product (hardware and software) within 14 days for a refund subject to the refund policy of your place of purchase.

For any further information or for requesting a full refund of the computer, please contact your local point of sale (the seller).

Safety warning notice

⚠ **WARNING!**   To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the computer air vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to come into contact with the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).

Table of contents

1 Welcome

- [What's new?](#)
- [Finding information](#)

After you set up and register the computer, it is important to take the following steps:

- **Connect to the Internet**—Set up your wired or wireless network so that you can connect to the Internet. For more information, refer to .

- **Update your antivirus software**—Protect your computer from damage caused by viruses. The software is preinstalled on the computer and includes a limited subscription for free updates. For more information, refer to the *HP Notebook Reference Guide*. For instructions on accessing this guide, refer to .

- **Get to know your computer**—Learn about your computer features. Refer to and for additional information.

- **Find installed software**—Access a list of the software preinstalled on the computer. Select **Start > All Programs**. For details about using the software included with the computer, refer to the software manufacturer's instructions, which may be provided with the software or on the manufacturer's Web site.

What's new?

The carrying handle, spill-resistant keyboard, and durable plastic housing are especially designed with the beginning computer user in mind.

Finding information

The computer comes with several resources to help you perform various tasks.

Resources	For information about
Quick Setup poster	- How to set up the computer - Help to identify computer components
HP Notebook Reference Guide To access this guide, select **Start > All Programs > HP > HP Documentation**.	- Power management features - How to maximize battery life - How to use the multimedia features of the computer - How to protect the computer - How to care for the computer - How to update the software

Resources	For information about
Help and Support To access Help and Support, select **Start > Help and Support**. **NOTE:** For country- or region-specific support, go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions.	● Operating system information ● Software, driver, and BIOS updates ● Troubleshooting tools ● How to access technical support
Regulatory, Safety, and Environmental Notices To access the notices, select **Start > All Programs > HP > HP Documentation**.	● Regulatory and safety information ● Battery disposal information
Safety & Comfort Guide To access this guide: Select **Start > All Programs > HP > HP Documentation**. – or – Go to http://www.hp.com/ergo.	● Proper workstation setup, posture, health, and work habits ● Electrical and mechanical safety information
Worldwide Telephone Numbers booklet This booklet is provided with your computer.	HP support telephone numbers
HP Web site To access this Web site, go to http://www.hp.com/support.	● Support information ● Ordering parts and finding additional help ● Software, driver, and BIOS (Setup Utility) updates ● Accessories available for the device
*Limited Warranty** To access the warranty: Select **Start > All Programs > HP > HP Documentation**. – or – Go to http://www.hp.com/go/orderdocuments.	Warranty information

*LIMITED WARRANTY STATEMENT

You may find the expressly provided HP Limited Warranty applicable to your product located with the electronic guides on your computer and/or on the CD/DVD provided in the box. Some countries/regions may provide a printed HP Limited Warranty in the box. In countries/regions where the warranty is not provided in printed format, you may request a printed copy from http://www.hp.com/go/orderdocuments or write to:

- **North America**: Hewlett-Packard, MS POD, 11311 Chinden Blvd, Boise, ID 83714, USA

- **Europe, Middle East, Africa**: Hewlett-Packard, POD, Via G. Di Vittorio, 9, 20063, Cernusco s/Naviglio (MI), Italy

- **Asia Pacific**: Hewlett-Packard, POD, P.O. Box 200, Alexandra Post Office, Singapore 911507

Please include your product number, warranty period (found on your serial number label), name, and postal address.

2   Getting to know your computer

Top

Top cover

| Component	Description
Network light	Off: All network functions are off.
	On: The computer is connected to a wired network or an integrated wireless device, such as a wireless local area network (WLAN) device, is on.

TouchPad
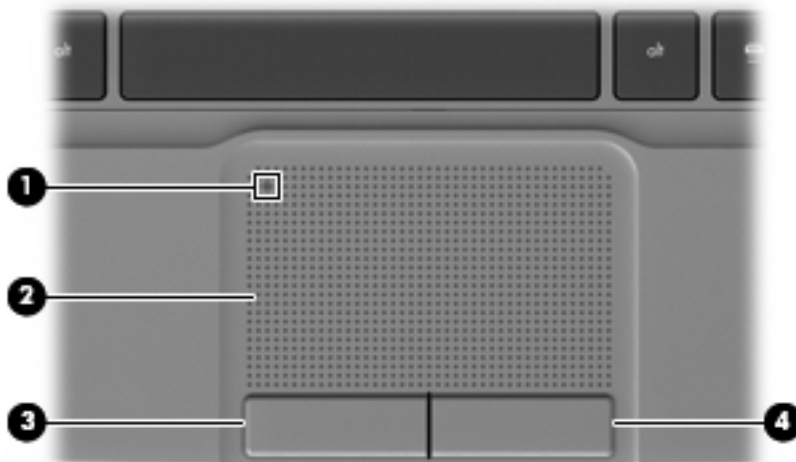
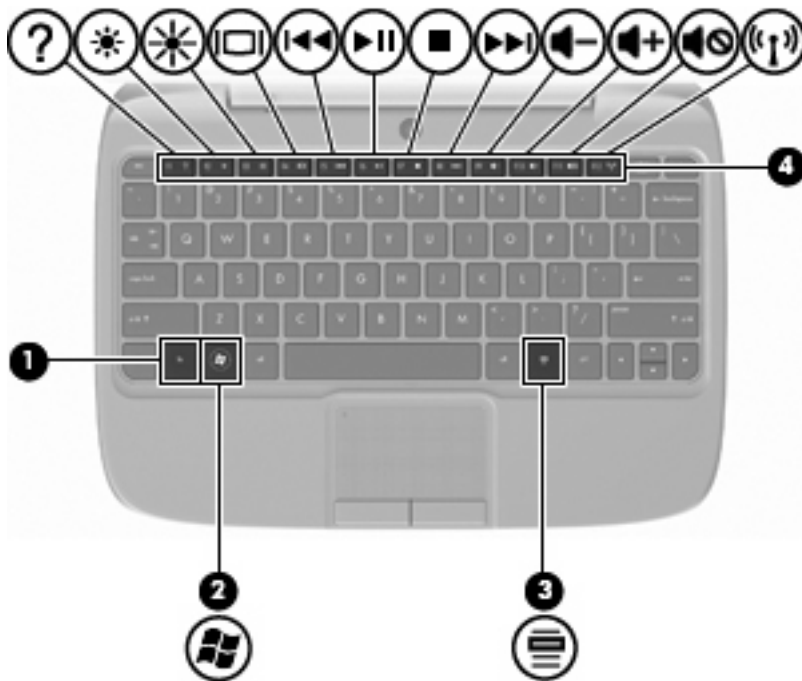| Component		Description
(1)	TouchPad off indicator	Turns the TouchPad on and off. Quickly double-tap the TouchPad off indicator to turn the TouchPad on and off.
(2)	TouchPad zone	Moves the pointer and selects or activates items on the screen.
(3)	Left TouchPad button	Functions like the left button on an external mouse.
(4)	Right TouchPad button	Functions like the right button on an external mouse.

Lights

Component		Description
(1)	TouchPad off indicator	● On: The TouchPad is off.
		● Off: The TouchPad is on.
(2)	Caps lock light	● On: Caps lock is on.
		● Off: Caps lock is off.
(3)	Power light	● On: The computer is on.
		● Blinking: The computer is in Standby.
		● Off: The computer is off or in Hibernation.
(4)	Mute light	● On: Computer sound is off.
		● Off: Computer sound is on.
(5)	Wireless light	● Off: All wireless devices are off.
		● On: An integrated wireless device, such as a wireless local area network (WLAN) device, is on.

Power button

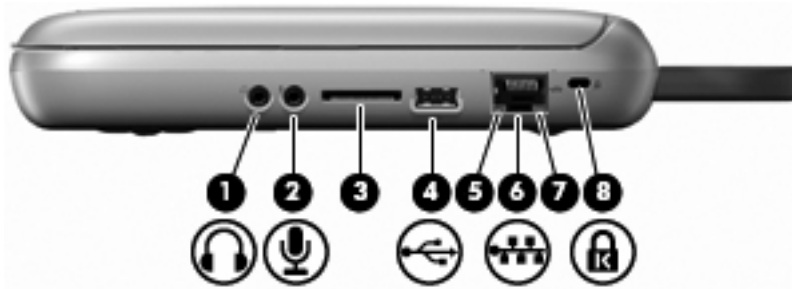| Component		Description
	Power button	• When the computer is off, press the button to turn on the computer.
		• When the computer is on, press the button briefly to initiate Standby.
		• When the computer is in Standby, press the button briefly to exit Standby.
		• When the computer is in Hibernation, press the button briefly to exit Hibernation.
		If the computer has stopped responding and Windows® shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the computer.
		To learn more about your power settings, select **Start > Control Panel > Performance and Maintenance > Power Options**, or refer to the *HP Notebook Reference Guide*.

Keys

Component		Description
(1)	fn key	Executes frequently used system functions when pressed in combination with a function key.
(2)	Windows logo key	Displays the Windows Start menu.
(3)	Windows applications key	Displays a shortcut menu for items beneath the pointer.
(4)	Function keys	Execute frequently used system functions when pressed in combination with the fn key.

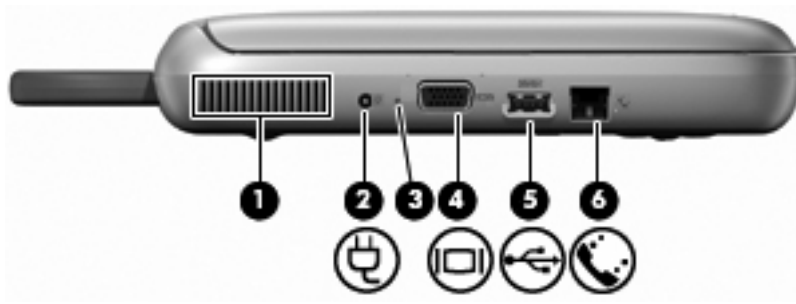# Front

Component		Description
(1)	Vent	Enables airflow to cool internal components.
		NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(2)	Speaker	Produces sound.

Right side

Component		Description
(1)	Audio-out (headphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or television audio.
		WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, refer to the *Regulatory, Safety, and Environmental Notices*.
		NOTE: When a device is connected to the jack, the computer speaker is disabled.
(2)	Audio-in (microphone) jack	Connects an optional external microphone.
(3)	SD Card Reader	Supports the following digital card formats:
		● MultiMediaCard (MMC)
		● Secure Digital High Capacity (SDHC) Card
(4)	USB port	Connects an optional USB device. When this port is the only USB port in use, it functions as a powered USB port.
(5)	Network activity light	Blinking amber: Data is being transmitted over the network.
(6)	RJ-45 (network) jack	Connects a network cable.
(7)	Network connection light	Green: The computer is connected to the network.
(8)	Security cable slot	Attaches an optional security cable to the computer.
		NOTE: The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.

Left side

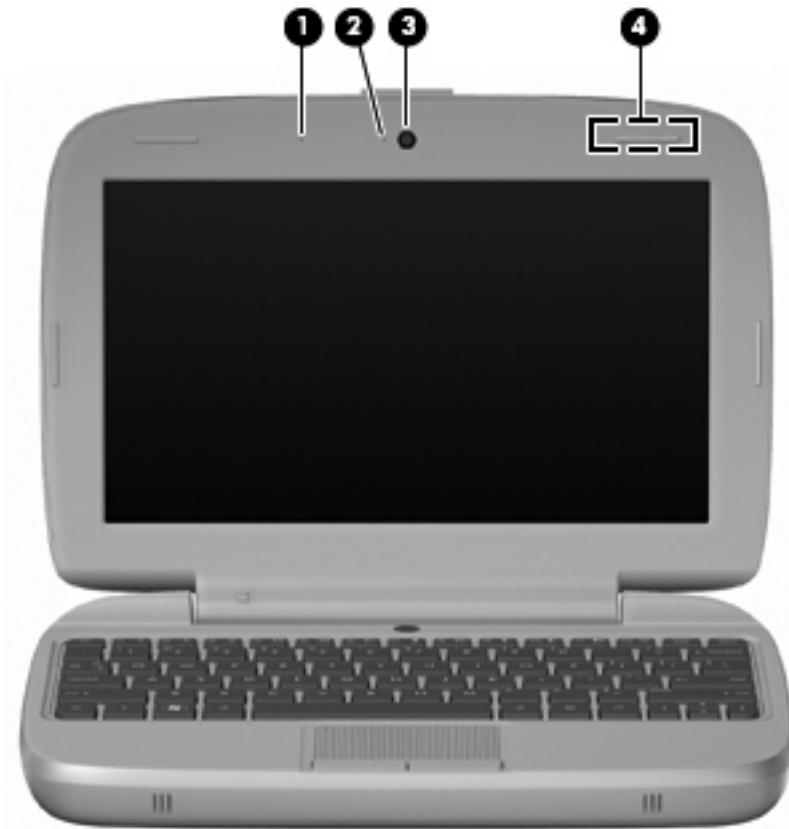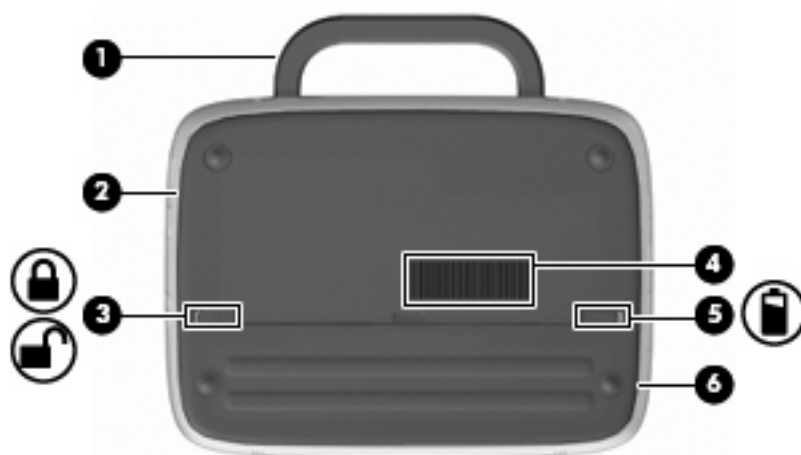| Component		Description
(1)	Vent	Enables airflow to cool internal components.
		NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(2)	Power connector	Connects an AC adapter.
(3)	Battery light	• Off: The computer is running on battery power.
		• Amber: The battery has reached a low or critical level or there is a battery error.
		• White: The computer is connected to external power and the battery is charged.
(4)	External monitor port	Connects an external VGA monitor or projector.
(5)	USB port	Connects an optional USB device. When this port is the only USB port in use, it functions as a powered USB port.
(6)	RJ-11 (modem) jack	Connects an optional modem cable.

Display

	Component	Description
(1)	Internal microphone	Records sound.
(2)	Webcam light	On: The webcam is in use.
(3)	Webcam	Records video and captures still photographs.
(4)	WLAN antenna*	Sends and receives wireless signals to communicate with wireless local area networks (WLAN).

*The antenna is not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antenna free from obstructions. To see wireless regulatory notices, refer to the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region. To access the notices, select **Start > All Programs > HP > HP Documentation**.

Bottom

Component		Description
(1)	Computer handle	Allows you to carry the computer.
		CAUTION: To reduce the risk of damaging the computer, close the computer before picking it up by the handle.
(2)	Service access cover	Provides access to the hard drive bay, a memory module slot, and the wireless local area network (WLAN) module.
(3)	Battery locking latch	Locks the battery into the battery bay.
(4)	Vent	Enables airflow to cool internal components.
		NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(5)	Battery release latch	Releases the battery from the battery bay.
(6)	Battery bay	Holds the battery.

3   Networking

- Using an Internet service provider (ISP)
- Connecting to a wireless network

NOTE: Internet hardware and software features vary depending on computer model and your location.

Your computer may support one or both of the following types of Internet access:

- Wireless—For mobile Internet access, you can use a wireless connection. Refer to Connecting to an existing WLAN on page 14 or Setting up a new WLAN on page 14.

- Wired—You can access the Internet by connecting to a wired network. For information on connecting to a wired network, refer to the *HP Notebook Reference Guide*.

Using an Internet service provider (ISP)

Before you can connect to the Internet, you must establish an ISP account. Contact a local ISP to purchase Internet service and a modem. The ISP will help set up the modem, install a network cable to connect your wireless computer to the modem, and test the Internet service.

NOTE: Your ISP will give you a user ID and password to access the Internet. Record this information and store it in a safe place.

The following features will help you set up a new Internet account or configure the computer to use an existing account:

- **ISP-provided icons (available in some locations)**—These icons may be displayed either individually on the Windows desktop or grouped in a desktop folder named Online Services. To set up a new Internet account or configure the computer to use an existing account, double-click an icon, and then follow the on-screen instructions.

- **Windows Connect to the Internet Wizard**—You can use the Windows Connect to the Internet Wizard to connect to the Internet in any of these situations:

    ◦ You already have an account with an ISP.

    ◦ You do not have an Internet account and want to select an ISP from the list provided within the wizard. (The list of ISP providers is not available in all regions.)

    ◦ You have selected an unlisted ISP, and the ISP has provided you with information such as a specific IP address and POP3 and SMTP settings.

    To access the Windows Connect to the Internet Wizard and instructions for using it, select **Start > Help and Support**, and then type `Connect to the Internet wizard` in the Search box.

NOTE: If you are prompted within the wizard to choose between enabling or disabling Windows Firewall, choose to enable the firewall.

Connecting to a wireless network

Wireless technology transfers data across radio waves instead of wires. Your computer may be equipped with one or more of the following wireless devices:

- Wireless local area network (WLAN) device
- HP Mobile Broadband Module, a wireless wide area network (WWAN) device
- Bluetooth device

For more information on wireless technology and connecting to a wireless network, refer to the *HP Notebook Reference Guide* and information on the Web site links by selecting **Start > All Programs > HP > HP Documentation**.

Connecting to an existing WLAN

1. Turn on the computer.
2. Be sure that the WLAN device is on.
3. Select **Start > Connect To**.
4. Select a network to connect to.
5. Click **Connect**.
6. If required, enter the security key.

Setting up a new WLAN

Required equipment:

- A broadband modem (either DSL or cable) **(1)** and high-speed Internet service purchased from an Internet service provider (ISP)
- A wireless router (purchased separately) **(2)**
- Your new wireless computer **(3)**

NOTE: Some modems have a built-in wireless router. Check with your ISP to determine what type of modem you have.

The illustration shows an example of a completed WLAN installation that is connected to the Internet. As your network grows, additional wireless and wired computers can be connected to the network to access the Internet.

Configuring a wireless router

For help in setting up a WLAN, refer to the information provided by your router manufacturer or your ISP.

The Windows operating system also provides tools to help you set up a new wireless network. To use the Windows tools to set up your network, select **Start > Control Panel > Network and Internet Connections > Set up a wireless network for a home or small office**. Then follow the on-screen instructions.

NOTE: It is recommended that you initially connect your new wireless computer to the router by using the network cable provided with the router. When the computer successfully connects to the Internet, you can disconnect the cable, and then access the Internet through your wireless network.

Protecting your WLAN

When you set up a WLAN or access an existing WLAN, always turn on security features to protect your network from unauthorized access.

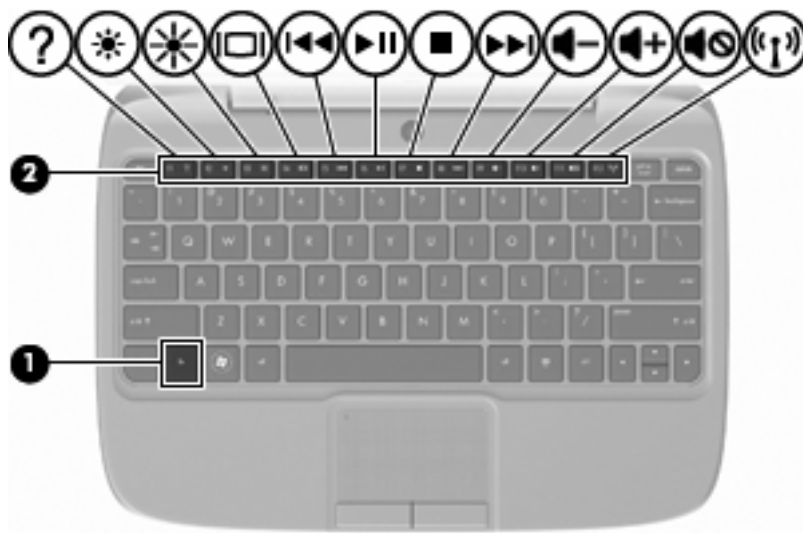For information on protecting your WLAN, refer to the *HP Notebook Reference Guide*.

4   Keyboard and pointing devices

- Using the keyboard
- Using pointing devices

Using the keyboard

Identifying the hotkeys

A hotkey is a combination of the fn key **(1)** and one of the function keys **(2)**.

To use a hotkey:

▲   Briefly press the fn key, and then briefly press the second key of the hotkey combination.

Hotkey combination		Description
?	fn+f1	Opens Help and Support.
		Help and Support provides tutorials, answers to questions, and product updates.
☀	fn+f2	Decreases the screen brightness level.
☼	fn+f3	Increases the screen brightness level.
⊡	fn+f4	Switches the screen image among display devices connected to the system. For example, if a monitor is connected to the computer, fn+f4 alternates the screen image from computer display to monitor display to simultaneous display on both the computer and the monitor.
		Most external monitors receive video information from the computer using the external VGA video standard. The fn+f4 hotkey can also alternate images among other devices that are receiving video information from the computer.

Hotkey combination		Description
◄◄	fn+f5	Plays the previous track of an audio CD or the previous section of a DVD or a BD.
►II	fn+f6	Plays, pauses, or resumes an audio CD, a DVD, or a BD.
■	fn+f7	Stops audio or video playback of a CD, a DVD, or a BD.
►►I	fn+f8	Plays the next track of an audio CD or the next section of a DVD or a BD.
◄−	fn+f9	Decreases speaker volume.
◄+	fn+f10	Increases speaker volume.
◄⊘	fn+f11	Mutes or restores speaker sound.
((ᵢ))	fn+f12	Turns the wireless feature on or off. **NOTE:** This hotkey does not establish a wireless connection. To establish a wireless connection, a wireless network must be set up.

Using keypads

The computer supports an optional external numeric keypad or an optional external keyboard that includes a numeric keypad.

Using an optional external numeric keypad

Keys on most external numeric keypads function differently according to whether num lock is on or off. For example:

- When num lock is on, most keypad keys type numbers.

- When num lock is off, most keypad keys function like the arrow, page up, or page down keys.

To turn num lock on or off on an external keypad as you work:

▲ Press the num lk key on the external keypad.

Using pointing devices

NOTE: In addition to the pointing devices included with your computer, you can use an external USB mouse (purchased separately) by connecting it to one of the USB ports on the computer.

## Setting pointing device preferences

Use Mouse Properties in Windows® to customize settings for pointing devices, such as button configuration, click speed, and pointer options.

To access Mouse Properties, select **Start > Control Panel > Hardware and Sound > Mouse**.
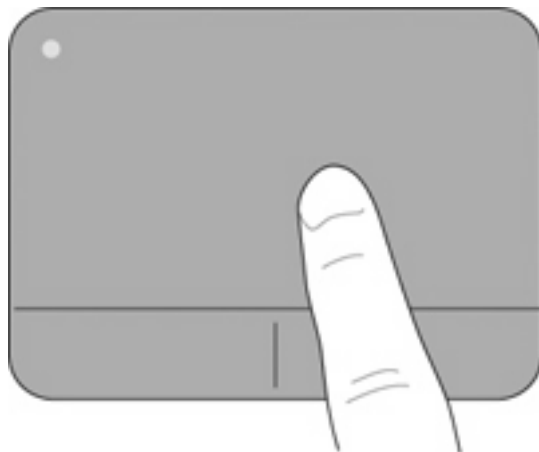
Using the TouchPad

Turning the TouchPad on and off

To turn the TouchPad on and off, quickly double-tap the TouchPad off indicator. When the TouchPad off indicator is amber, the TouchPad is off.
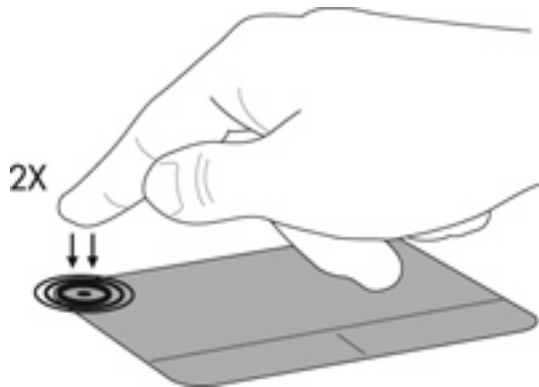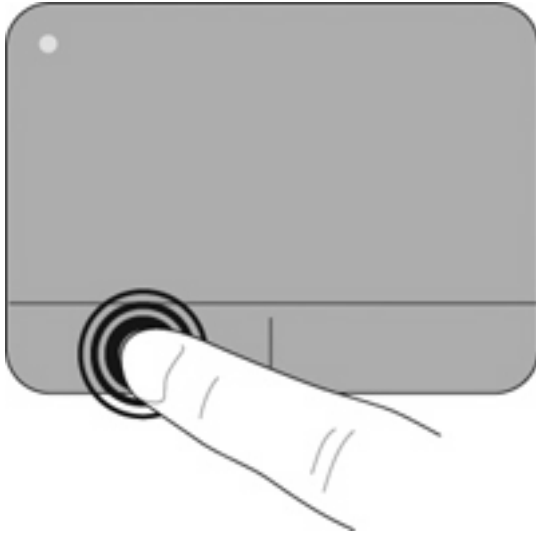

Navigating

To move the pointer, slide one finger across the TouchPad in the direction you want the pointer to go.

Selecting

Use the left and right TouchPad buttons like the corresponding buttons on an external mouse.

5   Maintenance

- Inserting or removing the battery
- Replacing or upgrading the hard drive
- Replacing the memory module
- Updating programs and drivers
- Routine care

Inserting or removing the battery

NOTE: For additional information on using the battery, refer to the *HP Notebook Reference Guide*.

To insert the battery:

1.   Lower the outside edge **(1)** of the battery into the battery bay.

2.   Press down on the inside edge **(2)** of the battery until you hear a click.

3.   Slide the battery locking latch **(3)** inward to lock the battery into the battery bay.
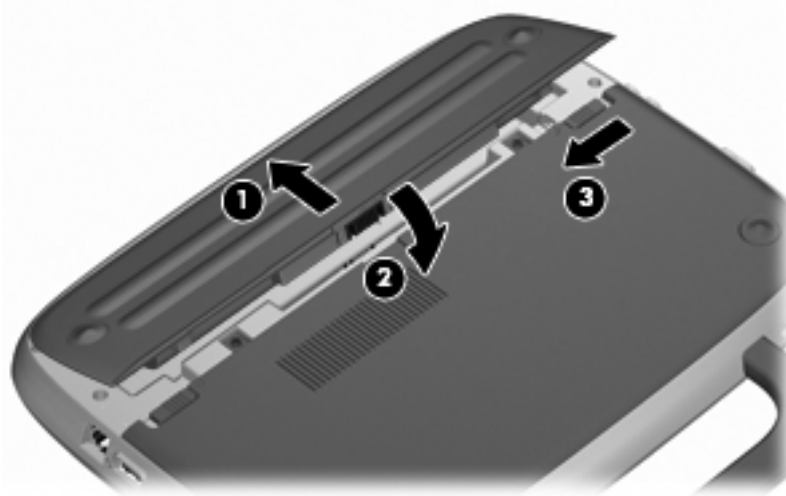

To remove the battery:

CAUTION: Removing a battery that is the sole power source for the computer can cause loss of information. To prevent loss of information, save your work and initiate Hibernation or shut down the computer through Windows before removing the battery.

1.   Slide the battery locking latch **(1)** to unlock the battery.

2.   Slide the battery release latch **(2)** to release the battery from the computer.

3. Lift the inner edge **(3)** of the battery, and remove the battery from the computer.
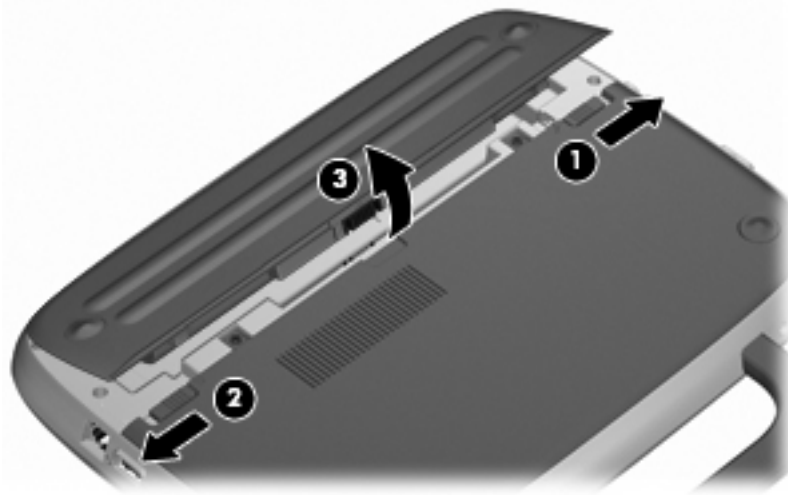
Replacing or upgrading the hard drive

△ **CAUTION:** To prevent information loss or an unresponsive system:

Shut down the computer before removing the hard drive from the hard drive bay. Do not remove the hard drive while the computer is on, in Standby, or in Hibernation.

If you are not sure whether the computer is off or in Hibernation, turn the computer on by pressing the power button. Then shut down the computer through the operating system.
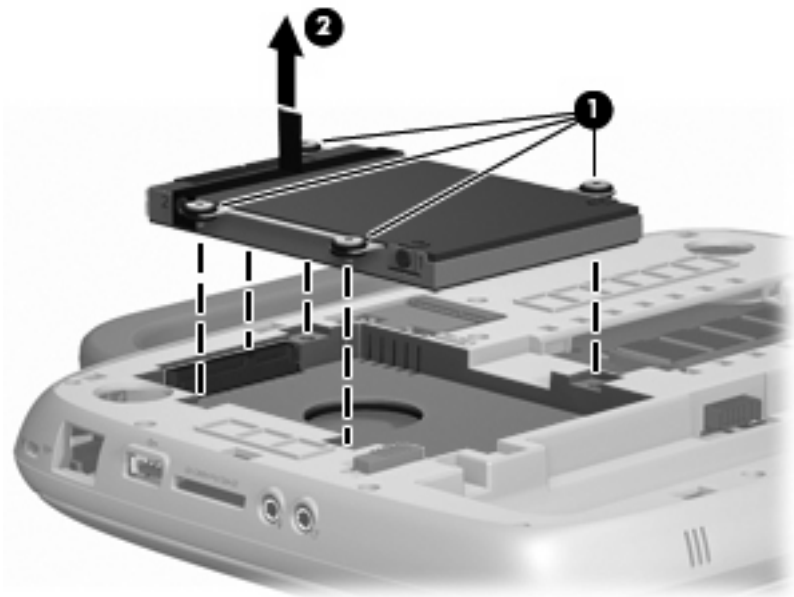
Removing the hard drive

1. Save your work and shut down the computer.

2. Disconnect all external devices connected to the computer.

3. Unplug the power cord from the AC outlet and remove the battery.

4. Position the computer with the battery bay facing you.

5. Remove the 2 screws **(1)** on the service access cover.

6. Lift the inside edge **(2)** of the cover, and then slide the cover **(3)** toward you to remove it.
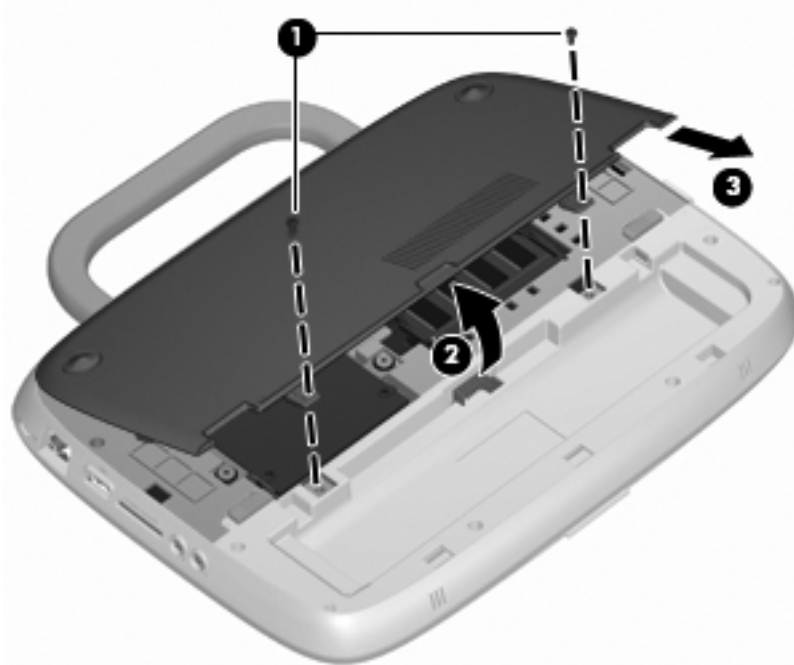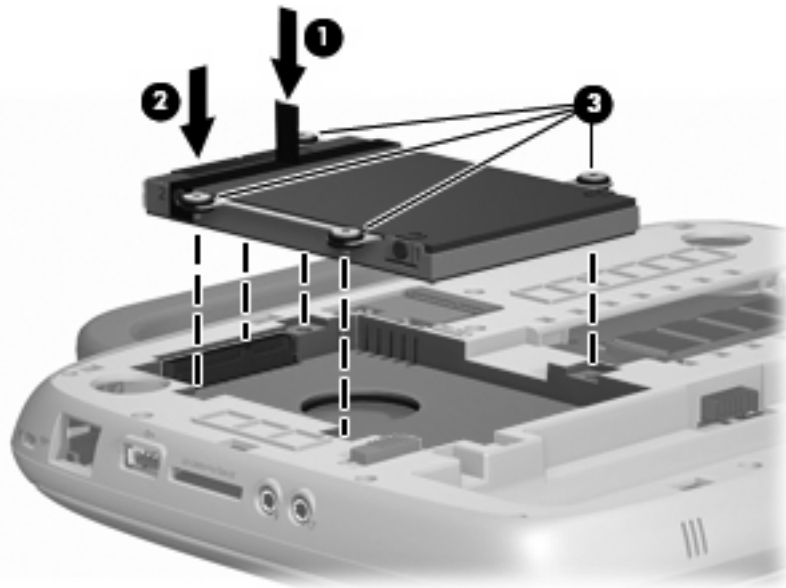
7. Remove the 4 hard drive screws **(1)**.

8. Grasp the tab **(2)**, and lift the hard drive out of the hard drive bay.
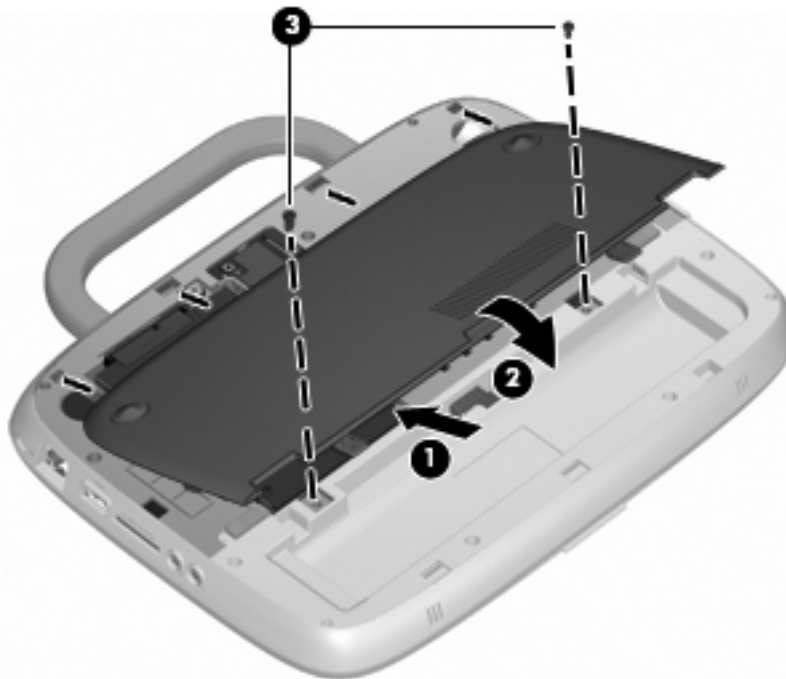
Installing the hard drive

1. Grasp the tab **(1)** and lower the hard drive **(2)** into the hard drive bay.

2. Replace the 4 hard drive screws **(3)**.

3. Align the tabs **(1)** on the service access cover with the notches on the computer.

4. Close the cover **(2)**.

5. Replace the 2 screws **(3)** on the service access cover.

6. Replace the battery.

7. Reconnect external power and external devices.

8. Turn on the computer.

Replacing the memory module

The computer has one memory module slot, which contains either a 1-GB memory module or a 2-GB memory module. If your computer has a 1-GB module, you can upgrade the capacity of the computer by replacing the 1-GB module with a 2-GB module.

⚠ **WARNING!** To reduce the risk of electric shock and damage to the equipment, unplug the power cord and remove the battery before installing a memory module.

⚠ **CAUTION:** Electrostatic discharge (ESD) can damage electronic components. Before beginning any procedure, ensure that you are discharged of static electricity by touching a grounded metal object.

To add or replace a memory module:

⚠ **CAUTION:** To prevent information loss or an unresponsive system:

Shut down the computer before adding or replacing memory modules. Do not remove a memory module while the computer is on, in Standby, or in Hibernation.

If you are not sure whether the computer is off or in Hibernation, turn the computer on by pressing the power button. Then shut down the computer through the operating system.

1. Save your work and shut down the computer.

2. Disconnect all external devices connected to the computer.

3. Unplug the power cord from the AC outlet and remove the battery.

4. Position the computer with the battery bay facing you.

5. Remove the 2 screws **(1)** on the service access cover.

6. Lift the inside edge **(2)** of the cover, and then slide the cover **(3)** toward you to remove it.
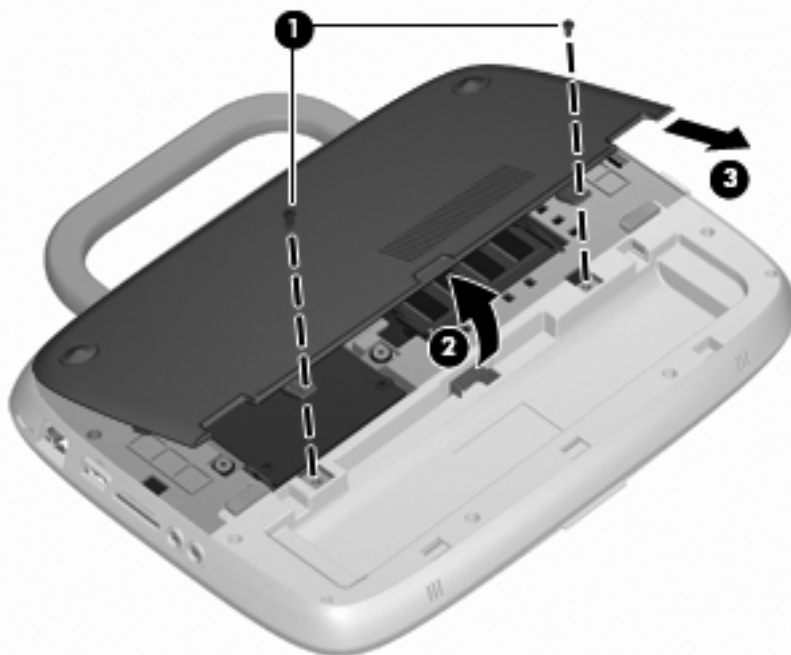
7. Remove the existing memory module:

   a. Pull away the retention clips **(1)** on each side of the memory module.

      The memory module tilts up.

b. Grasp the edge of the memory module **(2)**, and then gently pull the memory module out of the memory module slot.

△ **CAUTION:** To prevent damage to the memory module, hold the memory module by the edges only. Do not touch the components on the memory module.
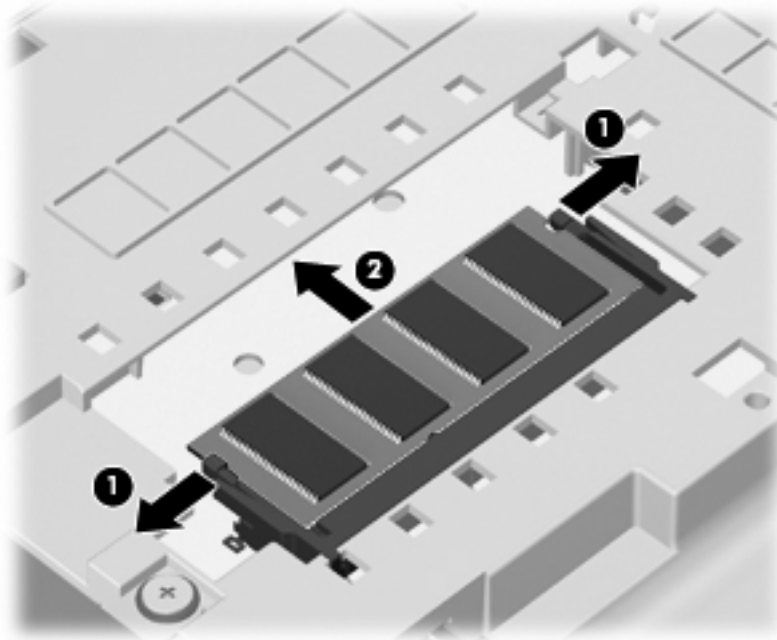
To protect a memory module after removal, place it in an electrostatic-safe container.

8. Insert a new memory module:

△ **CAUTION:** To prevent damage to the memory module, hold the memory module by the edges only. Do not touch the components on the memory module.

a. Align the notched edge **(1)** of the memory module with the tab in the memory module slot.

b. With the memory module at a 45-degree angle from the surface of the memory module compartment, press the module **(2)** into the memory module slot until it is seated.

c. Gently press the memory module **(3)** down, applying pressure to both the left and right edges of the memory module, until the retention clips snap into place.

⚠ **CAUTION:** To prevent damage to the memory module, be sure that you do not bend the memory module.
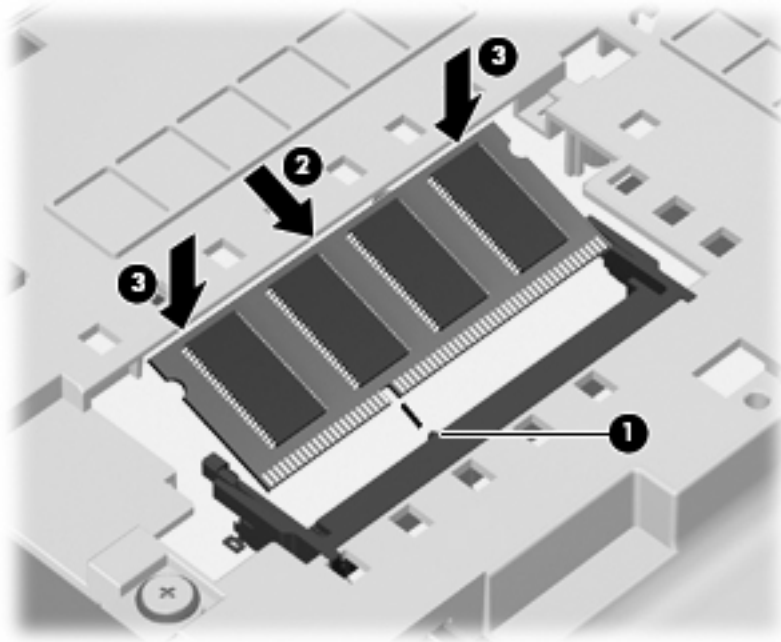
9. Align the tabs **(1)** on the service access cover with the notches on the computer.

10. Close the cover **(2)**.

11. Replace the 2 screws **(3)** on the service access cover.
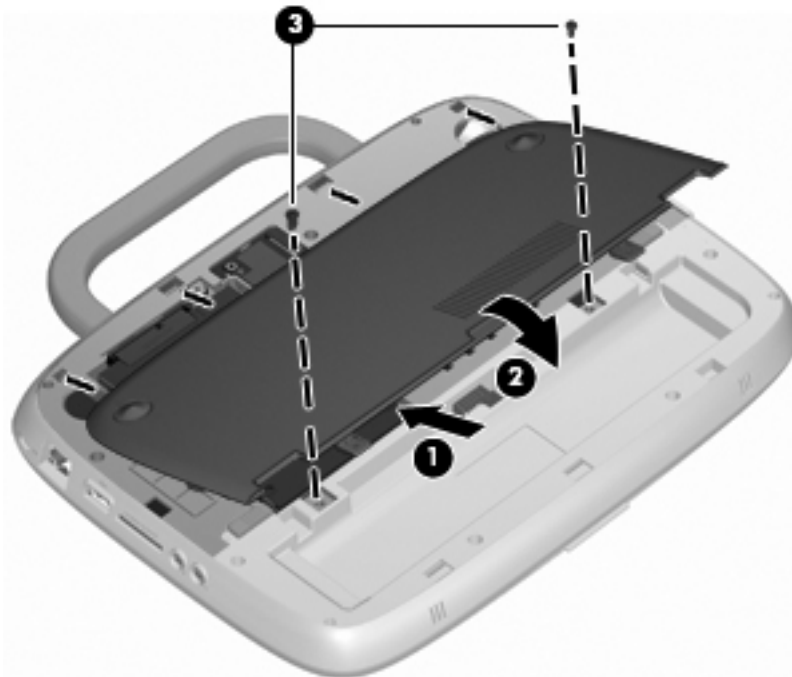
12. Replace the battery.

13. Reconnect external power and external devices.

14. Turn on the computer.

Updating programs and drivers

HP recommends that you update your programs and drivers on a regular basis with the latest versions. Go to http://www.hp.com/support to download the latest versions. You can also register to receive automatic update notifications when they become available.

Routine care

Cleaning the display

△ **CAUTION:** To prevent permanent damage to the computer, never spray water, cleaning fluids, or chemicals on the display.

To remove smudges and lint, frequently clean the display with a soft damp, lint-free cloth. If the screen requires additional cleaning, use premoistened antistatic wipes or an antistatic screen cleaner.

Cleaning the TouchPad and keyboard

Dirt and grease on the TouchPad can cause the pointer to jump around on the screen. To avoid this, clean the TouchPad with a damp cloth, and wash your hands frequently when using the computer.

△ **WARNING!** To reduce the risk of electric shock or damage to internal components, do not use a vacuum cleaner attachment to clean the keyboard. A vacuum cleaner can deposit household debris on the keyboard surface.

Clean the keyboard regularly to prevent keys from sticking, and to remove dust, lint, and particles that can become trapped beneath the keys. A can of compressed air with a straw extension can be used to blow air around and under the keys to loosen and remove debris.

6 Backup and recovery

To protect your information, back up files and folders regularly. In case of system failure, you can use the backup files to restore your personal information.

Windows provides the following options:

- Creating restore points
- Restoring your system configuration to a previous state

NOTE: For detailed instructions, perform a search for these topics in Help and Support.

NOTE: In case of system instability, HP recommends that you print the recovery procedures and save them for later use.

Backing up your information

Recovery after a system failure is as complete as your most current backup. You should create your initial backup immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup.

You can back up individual files or folders to an optional external hard drive or to a network drive.

Note the following when backing up:

- Store personal files in the My Documents folder, and back it up periodically.
- Back up templates stored in their associated programs.
- Save customized settings that appear in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time saver if you have to reset your preferences.

  To copy the screen and paste it into a word-processing document:

  a. Display the screen you want to save.

  b. Copy the screen image:

  To copy only the active window, press alt+prt sc.

  To copy the entire screen, press shift+prt sc.

  c. Open a word-processing document and click **Edit > Paste**.

  The screen image is added to the document.

  d. Save the document.

NOTE: Be sure that the computer is connected to AC power before you start the backup process.

NOTE: The backup process may take over an hour, depending on file size and the speed of the computer.

To create a system restore point, follow these steps:

1. Select **Start > All Programs > Accessories > System Tools > System Restore**.

2. Follow the on-screen instructions to create a restore point.

Performing a recovery

In case of system failure or instability, you can use the *System Recovery* disc (included with your computer) to recover your operating system and programs installed at the factory.

Restoring your computer to an earlier state

To restore the computer to an earlier state, follow these steps:

1. If possible, back up all personal files.

2. Click **Start > All Programs > Accessories > System Tools > System Restore**.

   The System Restore Wizard opens.

3. Click **Next** and select a restore point.

4. Follow the on-screen instructions.

NOTE: For additional information on initiating a recovery in Windows, perform a search for this topic in Help and Support.

Recovering the operating system and programs

△ **CAUTION:** The recovery process reformats and completely erases the hard drive. All files you have created and any software installed on the computer are permanently removed. The recovery process reinstalls the original operating system as well as software and drivers. Software, drivers, and updates not installed by HP must be manually reinstalled. Personal files must be restored from a backup.

To recover your operating system and programs, follow these steps:

1. If possible, back up all personal files.

2. Insert the *Operating System* disc into the optical drive.

3. Shut down the computer.

4. Turn on the computer and boot from the external optical drive.

   NOTE: The boot order may need to be changed via F10-Setup.

5. Follow the on-screen instructions to install the original factory image.

7   Customer support

- [Contacting customer support](#)
- [Labels](#)

Contacting customer support

If the information provided in this user guide, in the *HP Notebook Reference Guide*, or in Help and Support does not address your questions, you can contact HP Customer Support at:

http://www.hp.com/go/contactHP

NOTE: For worldwide support, click **Contact HP worldwide** on the left side of the page, or go to http://welcome.hp.com/country/us/en/wwcontact_us.html.

Here you can:

- Chat online with an HP technician.

  NOTE: When technical support chat is not available in a particular language, it is available in English.

- E-mail HP Customer Support.

- Find HP Customer Support worldwide telephone numbers.

- Locate an HP service center.

Labels

The labels affixed to the computer provide information you may need when you troubleshoot system problems or travel internationally with the computer:

- Serial number label—Provides important information, including the following:
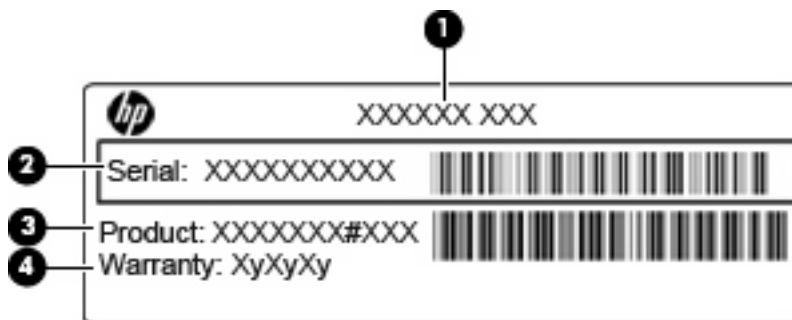
Component	
(1)	Part number/Product number (p/n)
(2)	Serial number (s/n)

(3)	Product name
(4)	Warranty period

Have this information available when you contact technical support. The serial number label is affixed to the bottom of the computer.

- Microsoft® Certificate of Authenticity—Contains the Windows Product Key. You may need the Product Key to update or troubleshoot the operating system. The Microsoft Certificate of Authenticity is located on the bottom of the computer.

- Regulatory label—Provides regulatory information about the computer. The regulatory label is affixed inside the battery bay.

- Wireless certification label or labels (select models only)—Provide information about optional wireless devices and the approval markings of some of the countries or regions in which the devices have been approved for use. If your computer model includes one or more wireless devices, one or more certification labels are included with your computer. You may need this information when traveling internationally. Wireless certification labels are affixed to the bottom of the computer.

8 Specifications

- [Input power](#)
- [Operating environment](#)

Input power

The power information in this section may be helpful if you plan to travel internationally with the computer.

The computer operates on DC power, which can be supplied by an AC or a DC power source. The AC power source must be rated at 100–240 V, 50–60 Hz. Although the computer can be powered from a standalone DC power source, it should be powered only with an AC adapter or a DC power source supplied and approved by HP for use with this computer.

The computer can operate on DC power within the following specifications.

Input power	Rating
Operating voltage and current	19.5 V dc @ 2.05 A

NOTE: This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 V rms.

NOTE: The computer operating voltage and current can be found on the system regulatory label on the bottom of the computer.

Operating environment

Factor	Metric	U.S.
Temperature		
Operating	**5°C to 35°C**	41°F to 95°F
Nonoperating	**-20°C to 60°C**	-4°F to 140°F
Relative humidity (noncondensing)		
Operating	**10% to 90%**	10% to 90%
Nonoperating	**5% to 95%**	5% to 95%
Maximum altitude (unpressurized)		
Operating	**-15 m to 3,048 m**	-50 ft to 10,000 ft
Nonoperating	**-15 m to 12,192 m**	-50 ft to 40,000 ft

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